WEST Search History

DATE: Wednesday, October 23, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L3	L2 same l1	12	L3
L2	sugar beet same (((corn or wheat or rye or oat or rice) adj bran) or apple)	916	L2
L1	arabinose	8870	L1

END OF SEARCH HISTORY

(FILE 'HOME' ENTERED AT 13:38:15 ON 23 OCT 2002)

FILE 'AGRICOLA, ALUMINIUM, ANABSTR, AQUIRE, BABS, BIOCOMMERCE, BIOTECHNO, CABA, CAOLD, CAPLUS, CBNB, CEABA-VTB, CEN, CERAB, CIN, COMPENDEX, CONFSCI, COPPERLIT, CORROSION, DKILIT, ENCOMPLIT, ENCOMPLIT2, FEDRIP, GENBANK, INSPEC, INSPHYS, INVESTEXT, IPA, ...' ENTERED AT 13:38:33 ON 23 OCT 2002

L1	29853	S	ARABINOSE
L2	98	S	L1 AND (SUGAR BEET AND (APPLE OR RICE OR CORN OR WHEAT))
L3	31	S	L2 AND HYDROLYSIS
L4	7	S	L3 AND ACID HYDROLYSIS

cellulose, except for **wheat** bran which is a highly lignified plant cell wall material.

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:143513 CAPLUS
DOCUMENT NUMBER: 118:143513
TITLE: Studies of the length of homogalacturonic regions in pectins by **acid hydrolysis**
AUTHOR(S): Thibault, Jean Francois; Renard, Catherine M. G. C.; Axelos, Monique A. V.; Roger, Philippe; Crepeau, Marie Jeanne
CORPORATE SOURCE: Cent. Rech. Agro-Aliment, Inst. Natl. Rech. Agron., Nantes, F-44026, Fr.
SOURCE: Carbohydrate Research (1993), 238, 271-86
CODEN: CRBRAT; ISSN: 0008-6215
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The different susceptibilities to **acid hydrolysis** of the glycosidic linkages in a pectin backbone were use to isolate fractions corresponding to the smooth, homo-D-galacturonic regions. Pectins from **apple**, beet, and citrus were de-esterified, and the resulting pectic acids were hydrolyzed in 0.1 M HCl at 80.degree.C for up to 72 h. The intrinsic viscosities of the hydrolyzates decreased, and two stages could be distinguished. Up to 10 h, there was a fast decrease, corresponding to the cleavage of the more susceptible linkages between L-rhamnose and galacturonic acid residues, followed by a slower stage, corresponding to cleavage of the linkages between galacturonic acid residues. During the course of the reaction, some galacturonic acid and most of the neutral sugars were solubilized, giving two fractions on Sepharose CL-6B. A minor fraction, composed mostly of galacturonic acid and rhamnose, with rhamnose-galacturonic acid ratios of 1:1.5, 1:2.9, and 1:2.1 for **apple**, beet, and citrus, resp., eluted at Kav 0.8, and a major fraction, composed essentially of L-**arabinose** and D-galactose, eluted at the total vol. The acid-insol. materials represented 84, 66, and 90% of the original pectic acids for **apple** , beet, and citrus, resp. They were progressively freed of neutral sugars; after **hydrolysis** for 72 h, almost pure polygalacturonates (more than 98 mol% galacturonic acid), representing the homogalacturonic regions, were obtained. The mol. wts. of these 72-h acid-insol. materials from **apple**, beet, and citrus were similar (resp., 21 000, 19 000, and 24 000), corresponding to lengths of the homogalacturonic regions estd. to be a min. of 72-100 galacturonic acid residues.

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:627356 CAPLUS
DOCUMENT NUMBER: 113:227356
TITLE: Assessment of methanolysis for the determination of sugars in pectins
AUTHOR(S): Quemener, Bernard; Thibault, Jean Francois
CORPORATE SOURCE: Cent. Rech. Agro-Aliment., Inst. Natl. Rech. Agron., Nantes, F-44026, Fr.
SOURCE: Carbohydrate Research (1990), 206(2), 277-87
CODEN: CRBRAT; ISSN: 0008-6215
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A procedure for the detn. of galacturonic acid and the main neutral sugars in pectins involves enzymic **hydrolysis** followed by methanolysis and HPLC. The usefulness of this method was demonstrated by comparison of the results obtained by (1) methanolysis in methanolic M HCl without enzymic prehydrolysis, (2) methanolysis in methanolic 72% H2SO4 with pretreatment for 3 h with aq. 72% H2SO4, (3) colorimetric detn. of galacturonic acid, and (4) gas liq. chromatog. of the alditol acetates of the neutral sugars released by **acid hydrolysis** under

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:237642 CAPLUS
DOCUMENT NUMBER: 131:43708
TITLE: Ferulic acid and diferulic acids as components of **sugar-beet** pectins and maize bran heteroxylans
AUTHOR(S): Saulnier, Luc; Thibault, Jean-Francois
CORPORATE SOURCE: Unite de Recherche sur les Polysaccharides, leurs Organisations et leurs Interactions, Institut National de la Recherche Agronomique, Nantes, 44316, Fr.
SOURCE: Journal of the Science of Food and Agriculture (1999), 79(3), 396-402
CODEN: JSFAAE; ISSN: 0022-5142
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 41 refs. with emphasis on recent research by the authors and their colleagues. Enzymic **hydrolysis** of **sugar-beet** pulp, and subsequent isolation of feruloylated oligosaccharides, has shown that ferulic acid groups are ester-linked mainly on O-2 of **arabinose** residues and on O-6 of galactose residues in the pectin side-chains. After sapon. of **sugar-beet** pulp enzymic digests, dehydrodiferulic acids (0.14%, wt./wt.) have also been identified and characterized as 8-5', 5-5', 8-8' and 8-O-4' isomers, suggesting that covalent crosslinking of pectic polysaccharides through diferulic bridges occurs in **sugar-beet** pulp. Feruloylated oligosaccharides from the side-chains of heteroxylans have been isolated from maize bran by **acid hydrolysis**. Ferulic acid is esterified on O-5 of arabinofuranose residues; 8-8', 8-5', 8-O-4' and 5-5' coupled dimers, which represent 2.5% (wt./wt.) of the bran, have also been detected. It has been calcd. that, in the cell wall, each heteroxylan macro-mol. bore .apprx.75 esterified ferulic acid groups and could be cross-linked through .apprx.30 diferulic bridges. This result suggests a high degree of crosslinking of heteroxylans chains through ferulic acid in maize bran cell walls.
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:250852 CAPLUS
DOCUMENT NUMBER: 118:250852
TITLE: Studies on the simultaneous determination of acidic and neutral sugars of plant cell wall materials by HPLC of their methyl glycosides after combined methanolysis and enzymic prehydrolysis
AUTHOR(S): Quemener, Bernard; Lahaye, Marc; Thibault, Jean Francois
CORPORATE SOURCE: Lab. Biochim. Technol. Glucides, Inst. Natl. Rech. Agron., Nantes, 44026, Fr.
SOURCE: Carbohydrate Polymers (1993), 20(2), 87-94
CODEN: CAPOD8; ISSN: 0144-8617
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method which involves enzymic **hydrolysis** followed by methanolysis and sepn. of the Me glycosides by HPLC was applied to complex polysaccharides from 3 fiber prepns. (pea hulls, **sugar-beet** pulp, and **wheat** bran). The results were compared to those obtained by (1) methanolysis without enzymic prehydrolysis, (2) gas chromatog. of the alditol acetates of the neutral sugars released by **acid hydrolysis**, and (3) colorimetric detn. of the uronic acids. Methanolysis alone allows the estn. of noncellulosic polysaccharides (pectins and hemicelluloses), whereas combined methanolysis and enzyme prehydrolysis also leads to the detn. of

various conditions.